REMARKS

Claims 1-15 and 17-43 are pending in the application. Claim 15 has been amended and claims 16 and 44-51 have been cancelled.

Claim Rejections –35 U.S.C. §101

Claims 44-51 have been cancelled.

Claim 15 has been amended to delete the term "capable of executing on a processor." Claim 16 has been cancelled. Applicant respectfully notes that claim 17 depends on claim 11 and there is no basis for rejection.

Claim Rejections – 35 U.S.C. §102(b)

The Examiner rejected claims 1, 5-6, 9-14, 18, 21-23, 26-28, 31, 34-35 and 38-40 under 35 USC 102(b) as being anticipated by Feder (U.S. Patent No. 6,300,973). Applicant respectfully disagrees with the Examiner's rejection. In particular, Feder fails to teach or suggest "adjusting a video encoding rate employed during video encoding based at least in part on an estimation of motion for a selected portion of a video image being encoded" as claimed or similarly claimed.

In particular, motion estimation often uses the sum of absolute differences (SAD) error criterion for its motion vector search. The motion vectors provide information about the activities in the macroblocks as well as the video frames. This information can be utilized to determine the quantization parameters for video bit-rate control. Rate control is thus accomplished using motion estimation information. This reduces computational complexity since the SAD that is already calculated in the motion estimation block is used. As noted in the application on pages 11 and 12 of the application:

> In comparison with state of the art approaches to adjusting the video bit rate, an embodiment in accordance with the present invention has several advantages. One advantage of this particular embodiment is reduced computational complexity. For this particular embodiment, for example, two parameters that may be determined with relative computational ease are employed to adjust or control the video encoding rate. One parameter, in this embodiment, although again the invention is not limited in scope in this respect, is an estimate of the motion. In terms of computational complexity, this does not produce a significant amount of additional overhead because this calculation takes to determine macroblock mode, as previously described, except for I frames. Furthermore, this computation for I frames, although providing some additional overhead, is not significant in terms of the processing resources that are consumed.

Feder fails to teach or suggest "adjusting a video encoding rate employed during video encoding based at least in part on an estimation of motion for a selected portion of a video image being encoded." Rather, Feder teaches away from the invention. Feder adjusts the video encoding rate based upon new motion vectors that are generated, not based upon the estimation of vectors for the selected portion of video image being encoded. In particular, FIG. 7 of Feder depicts exemplary steps in the operation of a rate control unit such as rate control unit 180. As noted in column 9, lines 26-41:

> At step 715, the quality control module 630 instructs the side information module 620 *to calculate new motion vectors* using the motion vectors that were retrieved from the generalized decoders and stored, at step 710, in the side information module 620. The new motion vectors may have to be generated for a variety of reasons including reduction of frame hopping and down scaling. In addition to use in generating new motion vectors, the motion vectors in the side information module are used to perform error estimation calculations with the result being used for further estimations or enhanced bit allocation. In addition, the motion vectors give an indication of a degree of movement within a particular region of the picture, (or "region of interest") so that the rate control unit 180 can allocate more bits to blocks in that particular region. (Emphasis added.)

It is therefore respectfully requested that the Examiner withdraw his rejection of the pending claims.

Claim Rejections – 35 U.S.C. §103

The Examiner rejected Claims 2-4, 7-8, 19-20, 24-25, 29-30, 32-33, 36-37, and 41-42 under 35 USC 103(a) as being unpatentable over Feder in view of Uz et al (US Patent No. 5,847,761). Applicant respectfully notes that the claims are patentable over both references for the reasons noted above.

CONCLUSION

In view of the foregoing, it is respectfully asserted that all of the claims pending in this patent application are in condition for allowance.

The required fee for a three month extension of time is enclosed. Should it be determined that an additional fee is due under 37 CFR §§1.16 or 1.17, or any excess fee has been received, please charge that fee or credit the amount of overcharge to deposit account #02-2666.

If the Examiner has any questions, she is invited to contact the undersigned at 323-654-8218. Reconsideration of this patent application and early allowance of all the claims is respectfully requested.

Respectfully submitted,
BLAKELY SOKOLOFF TAYLOR & ZAFMAN LLP

Dated: 8.17.2004

Farzad E. Amini, Reg. No. 42,261

12400 Wilshire Boulevard
Seventh Floor
Los Angeles, California 90025
(310) 207-3800

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail with sufficient postage in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on _____

Doris Carter 8-17-04
Date